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Army Medical Action Plan's Impact on Access to Healthcare for TRICARE Beneficiaries

Graduate Management Project

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U.S. Army-Baylor University Graduate Program in Health Care Administration

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### Abstract

The Army Medical Action Plan (AMAP) was implemented in order to resolve the concerns of wounded warriors. The AMAP served as the catalyst for several directives, including the enhanced access standards. The enhanced access standards expedited wounded warriors access to healthcare appointments. The impact of the enhanced access standards on non-wounded warrior TRICARE beneficiaries is analyzed in this study by focusing on six Army installations and six provider specialty clinics. Two periods before and after the implementation of the enhanced access standards were measured utilizing a Multivariate Analysis of Variance test. The results of the statistical analysis determined that the enhanced access standards had not impacted the non-Warriors in Transition TRICARE beneficiary's ability to access healthcare.

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**Disclaimer**

The views expressed in this study are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, Walter Reed Army Medical Center, or the U.S. Government.



## Introduction

### *Background*

On February 18, 2007, *The Washington Post* released an article entitled, “Soldiers Face Neglect, Frustration at Army’s Top Medical Facility.” The article highlighted several issues regarding outpatient wounded warriors at Walter Reed Army Medical Center (WRAMC) in Washington, D.C. The core issues identified related to substandard outpatient housing, the lack of health care management for outpatients, and the bureaucracy associated with the Medical Evaluation Boards (MEB) process. More specifically, “wounded warrior outpatients at Walter Reed encountered a messy bureaucratic battlefield nearly as chaotic as the real battlefields they faced overseas” when attempting to navigate the Medical Evaluation Boards (MEB) process (Priest & Hulle, 2007).

The article attracted national attention which served as a catalyst for numerous investigations. The most salient of these investigations was the Report of the President’s Commission on Care for America’s Returning Wounded Warriors, informally known as the Dole-Shalala Commission, released its findings on July 25, 2007. The Dole-Shalala Commission investigated the issues at Walter Reed and made the following six recommendations in order in order to eradicate the problems identified at WRAMC:

1. Modernize and improve the disability and compensation systems.
2. Aggressively prevent and treat post-traumatic stress disorder and traumatic brain injury.
3. Significantly strengthen support for families.
4. Immediately create a comprehensive recovery plan to provide the right care and support, at the right time, in the right place.
5. Rapidly transfer patient information between the Departments of Defense (DoD) and VA.



6. Strongly supporting Walter Reed by recruiting and retaining first-rate professional through 2011 (PCC, 2007).

In response to these recommendations and as directed by the Army Chief of Staff, the U.S. Army Office of the Surgeon General (OTSG) and the United States Army Medical Command (MEDCOM) established the Army Medical Action Plan (AMAP). The policy was published in Department of the Army Execution Order (EXORD) 118-07, dated June 2, 2007. The intent of the AMAP is to provide for a continuum of integrated care and services from point of injury, illness, or disease, to return to duty or transition from active duty.

In order to support the intent, the AMAP identified seven key tasks:

1. Empower commanders to resolve Warrior and Family issues at the lowest level possible.
2. Establish integrated and comprehensive continuum of care and services through the triad of care consisting of primary care manager, nurse case manager, and squad leader.
3. Facilitate leadership involvement at all levels of command.
4. Optimize Army Physical Disability Evaluation System and integrate with the Department of Veterans Affairs.
5. Provide requirements to the Planning, Programming, Budgeting, and Execution System to sustain operations.
6. Enhance Seamless Transition of Warriors in Transition by maximizing interagency and joint interoperability.
7. Communicate approved AMAP initiatives/programs to key audiences promoting understanding and support (HQDA, 2007a).

These seven key tasks served as the catalyst for several initiatives such as the Warrior Transition Units (WTU), the triad of support consisting of primary care manager, nurse case manager, and squad leader, the Soldier and Family Assistance Centers, and created enhanced access standards. These are examples or “quick wins” were developed in order to address the immediate needs of the Wounded Warriors.

However, these initiatives were implemented without the full understanding of the impact they would have on soldiers and their dependents not assigned or attached to the WTUs. Policies such as prioritizing the allocation of housing to Warriors in Transition per AR 210-50 and the establishment of the enhanced access standards for healthcare required that everyone within the Department of the Army make sacrifices in order to alleviate the perception of sub-standard conditions faced by the Wounded Warriors (HQDA, 2007a).

### *Conditions That Prompted the Study*

The development and implementation of U.S. Army healthcare policies stemming from the AMAP largely addressed the issues identified by *The Washington Post* article. The AMAP's successes include the creation of the Army Physical Disability Evaluation System, which improved MEB processing times and reduced the MEB bureaucracy. Additionally, the creation of the WTUs improved command and control, continuity of care, and the transition into the force or to civilian life for the warriors in transition (WT) (Tucker, 2007). However, at present, there is no measure of these policies impact on the non-WT beneficiaries within the Military Healthcare System (MHS).

This study will focus on the impact the enhanced access standards have had on the non-WTs beneficiaries. The enhanced access standards were established under the AMAP Task 3.C.1.H.7.A and directed that wounded warriors be provided healthcare appointments at an expedited rate in comparison to other TRICARE Prime beneficiaries. The purpose of this initiative was to improve access to direct care system healthcare appointments in order to accelerate the MEB process for wounded warriors.

The non-WT TRICARE Prime beneficiaries are provided access to healthcare within the following standards:

- 24 hours for Urgent care,
- seven calendar days for Routine Care
- 28 calendar days for Specialty Care in the MTF or TRICARE network after referral by a primary care manager (Code of Federal Regulation, 2008).

The wounded warriors are provided enhanced access standards in accordance with OTSG/MEDCOM Policy Memorandum 08-028, entitled, "MEDCOM Military Treatment Facility Access Standards for Active Duty Service Members. These access standards are noticeably different than standards provided to non-WT TRICARE Prime beneficiaries. The enhanced access standards for wounded warriors are as follows:

- 24 hours for Urgent Care
- Three working days for routine primary care
- Seven working days for initial specialty care. This applies to all initial specialty care for the Warriors in Transition. Follow up specialty appointments do not have an access standard.
- Seven calendar days for diagnostic tests.
- Fourteen calendar days for non-emergent surgeries required to reach optimum medical benefit or establish fitness for duty status.
- The PCM will conduct initial evaluation screening on WTs within one working day of assignment or attachment to the WTU.

The enhanced access standards are provided to a select category of service members, specifically, Warriors in Transition, deploying service members, and post-deploying members. The WTs include soldiers who have complex medical needs requiring six months or more of treatment or rehabilitation or who require an MEB. This includes soldiers assigned to the WTUs for non-combat or non-deployment related injuries or illnesses. These soldiers, by virtue of assignment to their respective WTUs, are authorized the enhanced access standards for all of

their healthcare needs.

The enhanced access standard's intent was to improve wounded warrior MEB processing times. However, these benefit of improved processing times may come at the burden of other TRICARE beneficiaries. The enhanced access standards required the MTFs to accommodate an increase in demand for appointments without an increase in their capabilities. In order for MTFs to comply, the assumption is that access to healthcare for non-WT TRICARE Prime beneficiaries may have suffered.

This study focus evaluates the enhanced access standards potential to create ethical, access, and cost concerns for active duty service members and their dependents and all other categories of TRICARE beneficiaries.

### Literature Review

Access Standards in the Military Health System are specified under Title 32, Code of Federal Regulation, Section 199.17 and supplemented by several policies directed by the Assistant Secretary of Defense for Health Affairs. These access standards have multiple exceptions prioritized by healthcare services, beneficiary's proximity to assigned MTFs, and by patient category. The purpose of this literature review is to examine these exceptions and demonstrate that the enhanced access standards are part of a series of exceptions necessary to address the complexities associated with providing healthcare to those who serve in the Armed Forces.

Health Affairs Policy 06-007 defines the access standards for the MHS, however, there are multiple exceptions to these standards. Exceptions to access standards by healthcare services are not unusual. Mental health and chiropractor services are two examples of services that have altered access standards. Mental health standards are divided into three categories, Emergency,



Urgent, and Routine for initial behavioral health assessments. Emergency conditions dictate that mental health care will be provided on an immediate basis as dictated by the threat, while an Urgent condition will be provided an appointment within 24 hours. Routine conditions require that mental health care be provided within one week (Health Affairs, 2007a). Mental health is considered a specialty care service and the access standards to see beneficiaries within 28 calendar days after initial assessment still apply.

Access standards for Chiropractor services provided in the MHS are very limited. The only beneficiaries authorized this service are active duty service members. These services can only be rendered by contract personnel at MTFs (Health Affairs, 2007b). This policy prohibits all other TRICARE beneficiaries from accessing this service and as of 2007 expanded the chiropractor services to all MTFs.

Additionally, the Department of Defense (DoD) standard access standards outline the time requirements in which a beneficiary will receive an appointment. However, the exception to the access standards is based on the priority of care by beneficiary category. The beneficiary priority of care is as follows:

1. Group 1: Active Duty Service Members
2. Group 2: Active Duty Family Members and Transitional Survivors of service members who died while on active duty, who are enrolled in TRICARE Prime.
3. Group 3: Retirees, their dependents and Survivors who are enrolled in Prime.
4. Group 4: Active duty family members not enrolled in TRICARE Prime, Transitional Survivors of survivors who died on active duty not enrolled in TRICARE Prime and TRICARE Reserve Select beneficiaries.
5. Group 5: Retirees, their dependents and survivors who are not enrolled in TRICARE Prime.

The beneficiary priority of care policy dictates that if routine access is limited at the MTF,

it may only be limited within the scope of these priorities. So regardless of service obligation, all active duty service members must be offered access to care within standards before other beneficiary categories. Additionally, there is a special provision that includes NATO and other foreign military members in group 1 and their family members in group 2 if they are entitled to care in a MTF pursuant to an applicable international agreement (Code of Federal Regulation, 2008).

Finally, there is automatic enrollment into TRICARE Prime for dependents of active duty members in the grade of E-1 to E-4 who reside with the catchment area of a military treatment facility. (Code of Federal Regulation, 2008). This law hinders access to MTFs for TRICARE Prime beneficiaries with sponsors above E-4 based on the MTFs capabilities and E-4 and below population.

In conclusion, the MHS made numerous exceptions to access standards. As previously annotated, these exceptions are dictated by the health service, the beneficiary category, and by rank. However, with all the exceptions noted, the enhanced access standards have not been implemented outside of the Department of the Army.

#### Statement of the Problem

The Army Medical Action Plan, EXORD 118-07, provided the framework for which the Army would correct the alleged deficiencies at WRAMC and improve the treatment of wounded Warriors and their family members. Of the policies initiated by the AMAP, this study focuses on the OTSG/MEDCOM Policy Memorandum 08-028, entitled, "MEDCOM Military Treatment Facility Access Standards for Active Duty Service Members." This policy established the criteria for the enhanced access standards.

The enhanced access standards, as outlined previously, created standards for WTs within the Army healthcare system despite the unknown consequences that non-WT beneficiaries would bear. This study will determine if the enhanced access standards, as directed by the Army Medical Action Plan and OTSG/MEDCOM Policy Memorandum 08-028, have created healthcare access problems for the non-WT beneficiaries.

### Methodology

#### Purpose

This case study evaluates the impact of the enhanced access standards on the non-WT TRICARE Prime beneficiaries by analyzing the direct care work load and purchased care costs before and after the implementation of the policy. The study will statistically analyze six specialty services at six Army installations utilizing the multivariate analysis of variance (MANOVA) test conducted as a general linear model. The units of analysis will consist of six Army medical treatment facilities in conjunction with variables consisting of the relative value units (RVUs) and purchased care costs related to non-WT TRICARE Prime beneficiaries.

RVUs measure hospital productivity for outpatient procedures. The RVU data sets have been averaged to account for RVUs per encounter for each clinic specialty included in this study.

The purchased care costs consist of the amount paid for healthcare services provided to the non-WT beneficiaries referred to the civilian healthcare network and have been adjusted to reflect the cost per encounter. The purchase care costs for Fiscal Year (FY) 2007 and 2008 have been deflated to reflect the FY 2006 cost utilizing the Consumer Price Index for Medical Care Services (USD, 2006). The individuals referred to the civilian healthcare network were a result of the demand for appointments exceeding the MTFs' capacity, and/or the unavailability of specialty services at the health care facility to which the patient is assigned.



The purpose of evaluating the purchased care costs and RVU workload is to determine whether implementation of the enhanced access standards has required MTFs to decrease the amount of direct care services provided to non-WT TRICARE Prime beneficiaries and increase the number of referrals to the civilian healthcare network.

### *Hypothesis #1*

The null hypothesis ( $H_{01}$ ): there is no mean difference in the purchased care cost for non-WT TRICARE beneficiaries before and after the implementation of enhanced access standards.

$$H_{01}: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

The alternative hypothesis ( $H_{a1}$ ): there is a mean difference in the purchased care cost for non-WT TRICARE beneficiaries before and after the implementation of enhanced access standards.  $H_{a1}: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6$

### *Hypothesis #2*

The null hypothesis ( $H_{02}$ ): there is no mean difference in the RVU workload for direct care provided to non-WT TRICARE beneficiaries before and after the implementation of enhanced access standards.  $H_{02}: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$

The alternative hypothesis ( $H_{a2}$ ): there is a mean difference in the RVU workload for direct care provided to non-WT TRICARE beneficiaries before and after the implementation of enhanced access standards.  $H_{a2}: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5 \neq \mu_6$

### *Data*

The data sources are the US Army Medical Department Behavioral Health Utilization Data System and the Medical Metrics (M2) database. This study was conducted utilizing two data sets that consist of purchased care and RVU work load for six installations and six specialty clinics. The data sets contained 10,549 cases for purchased care and 26,140 cases for direct care.

Each data set was divided into two periods before and after the implementation of the enhanced access standards with the dividing date being 1 July 2007. This date was selected as it provides for a 30 day period to account for the time the Army MTFs took to implement the enhanced access standards which became effective on 30 May 2007. The data sets cover three Fiscal Years (FY), FY 06, FY 07 and FY 08, and the time periods range from October 2005 to June 2007 (Pre) and July 2007 to September 2008 (Post).

Finally, the statistics are quantitative in nature, enabling statistical analysis with the Statistical Package for the Social Sciences (SPSS™). The descriptive statistics can be found in Appendix A, B & C.

### *Population*

The population in this study consists of all non-WT TRICARE Prime beneficiaries who are authorized healthcare services through the Military Healthcare System. The sample size consists of non-active duty TRICARE Prime beneficiaries from six Army installations who have received medical treatment in one of six specialty services between October 2005 and September 2008.

The specialty clinics examined will consist of those clinics with high utilization rates by wounded warriors. They include behavioral health, physical therapy, neurosurgery, neurology, orthopedics, and pain management.

The non-active duty TRICARE Prime beneficiaries are active duty family members, retired service members and their family members, survivors of deceased service members, authorized National Guard and their family members, and others. Others include authorized foreign nationals, government representatives authorized care, and those personnel who would otherwise not be eligible for care.

The six Army installations include Fort Bragg, North Carolina; Fort Hood, Texas; Fort Sam Houston, Texas; Fort Stewart, Georgia; Fort Lewis, Washington, and Walter Reed Army Medical Center, Washington, D.C.

The criteria for installation selection in this study included that there was either an Army Community Hospital or Army Medical Center at each installation, the units assigned to the bases had a specific role, combat or casualty care support; and each had a Warrior Transition Unit with over 350 WTs assigned.

Four of the six installations evaluated support combatant units subordinate to the United States Forces Command (FORSCOM). FORSCOM trains, mobilizes, deploys, sustains and reconstitutes combat ready Army forces capable of responding rapidly to crises worldwide. They are responsible for over 200,000 Soldiers stationed nationwide. Their subordinate units include three Army corps – I Corps at Fort Lewis, Wash.; III Corps at Fort Hood, Texas; and XVIII Airborne Corps at Fort Bragg, N.C. FORSCOM has eight divisions, including the 3<sup>rd</sup> Infantry Division located at Fort Stewart, multiple combat brigades, and a full range of other combat, combat support and combat service support units (Campbell, 2009).

The significance of these installations in relation to this study is that they each have high deployment rates, suffered casualties in both Iraq and Afghanistan which contribute to their respective WTUs, and have experienced a deployment cycle which has caused the number of TRICARE Prime beneficiaries to fluctuate. As soldiers deploy and their family members depart the installations, the number of beneficiaries at the MTFs decreased, thus the numbers dramatically increase as the soldiers return from combat.

Walter Reed Army Medical Center and Fort Sam Houston were selected for their role in OEF and OIF casualty support. Both installations have WTUs with over 550 WTs assigned and

offer specialize care for wounded warriors. WRAMC is home to the Military Advanced Training Center which specializes in amputee care as well as over 15 other specialties focused on healing wounded warriors. Fort Sam Houston is home to the Brooke Army Medical Center, United States Army Institute of Surgical Research (ISR), and the Center for the Intrepid. The Center for the Intrepid and the ISR are dedicated to the treatment, rehabilitation, and the medical research of burn and amputee service members. Both WRAMC and BAMC receive Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) medical evacuees from Landstuhl Regional Medical Center, Germany.

### Results

This study analyzed the daily encounters for both RVU workload for direct care and purchased care costs for non-WT TRICARE Prime beneficiaries referred to civilian health care providers.

#### Purchased Care Analysis

The amount spent on purchased care is being evaluated to determine whether there is a mean difference in the purchased care cost for non-WT TRICARE Beneficiaries before and after the implementation of enhanced access standards.  $H_{01}: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$

A multivariate analysis of variance conducted as a general linear model was used to evaluate the purchased care costs. The data utilized in the analysis was averaged using the pre and post time periods. The results of the analysis are reflected in Table 1.

The results for the MANOVA for the purchased care cost reflected significant effects for the base, clinic, and Pre/Post data sets with several significant interactions. As a result of the significant F statistic for several variables, a Tukey Post Hoc was conducted in order to assess the location of the differences.

Table 1.

## Multivariate Analysis of Variance for Purchased Care Costs

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	87748440.321(a)	71	1235893.53	23.568	0
Intercept	112655651	1	112655651	2148.26	0
Base	3069163.03	5	613832.606	11.705	0
Clinic	59423620.5	5	11884724.1	226.632	0
PrePost	2048129.39	1	2048129.39	39.056	0
Base * Clinic	7087503.5	25	283500.14	5.406	0
Base * PrePost	450853.353	5	90170.671	1.719	0.13
Clinic * PrePost	1846568.01	5	369313.602	7.043	0
Base * Clinic * PrePost	3188709.33	25	127548.373	2.432	0
Error	445796824	8501	52440.516		
Total	671949298	8573			
Corrected Total	533545265	8572			

a. R Squared = .164 (Adjusted R Squared = .157)

The post-hoc analysis for the bases indicated that the purchase care costs for Fort Lewis and WRAMC were similar and were significantly less than other bases. Fort Hood, Fort Sam Houston, Fort Stewart, and Fort Bragg cost were comparable.

Table 2.

## Tukey Post Hoc Test for Bases Purchased Care

Base	N	Subset	
		2	1
WOMACK AMC-FT. BRAGG	1263	107.2966	
WALTER REED AMC-WASHINGTON DC	872	108.4103	
WINN ACH-FT. STEWART	1607		130.523
MADIGAN AMC-FT. LEWIS	1488		131.918
BROOKE AMC-FT. SAM HOUSTON	1895		135.234
DARNALL AMC-FT. HOOD	1448		135.995

c Alpha = .05



The Tukey post-hoc analysis for the bases indicated that the purchase care costs for Fort Lewis and WRAMC were similar and were significantly less than other bases. Fort Hood, Fort Sam Houston, Fort Stewart, and Fort Bragg cost were comparable.

Table 3.

Tukey Post Hoc Test for Specialty Clinics Purchased Care

Clinic	N	2	3	Subset 4	5	1
Physical Therapy	644	16.5774				
Mental Health	2566		59.3295			
Neurology	630			129.7233		
Pain Management	3541			135.3159		
Orthopedics	638				208.9496	
Neurosurgery	554					419.0951

Alpha = .05.

The same test was run for specialty clinics which indicated that each clinic differed from each other. The range of the cost grew with the complexity of the specialty service with Physical Therapy least expensive and Neurosurgery being most.

*RVU Analysis*

The analysis of RVU work load by installation and provider specialty for non-WT TRICARE Prime beneficiaries was conducted in order to determine if the enhanced access standards impacted direct care at the MTFs. The statistical analysis was conducted utilizing a MANOVA to compare the periods before and after the implementation of the enhanced access standards. RVU data were formulated to reflect the ratio of RVUs per encounter and then averaged by fiscal month. The null hypothesis,  $H_{02}: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$ , is applicable to this element of the study.

The MANOVA determined that there were significant main effects for the bases and clinics, with significant interactions, however, there was no significant difference between the Pre vs. Post. This implies that there were no significant differences in the level of resources utilized before and after the enhanced access standards were implemented.

Table 4.

Multivariate Analysis of Variance for Purchased Care Costs

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3510.214(a)	70	50.15	17.72	0
Intercept	3307.31	1	3307.31	1168.94	0
PREPOST	0.39	1	0.39	0.14	0.711
Base	146.74	5	29.35	10.37	0
Clinic	1466.86	5	293.37	103.69	0
PREPOST * Base	71.69	5	14.34	5.07	0
PREPOST * Clinic	36.32	5	7.26	2.57	0.025
Base * Clinic	544.31	25	21.77	7.70	0
PREPOST * Base * Clinic	145.52	24	6.06	2.14	0.001
Error	56521.56	19977	2.83		
Total	108637.69	20048			
Corrected Total	60031.78	20047			

a R Squared = .058 (Adjusted R Squared = .055)

The Tukey Post Hoc tests for both data sets were conducted. The installation data demonstrated the RVU/encounter workload differences between post was minimal. As for specialty care, only neurology and pain management were remotely similar, each other specialty service were substantially different (Appendix D).



## Discussion

The statistical analysis demonstrates that the enhanced access standards have had minimal impact on the non-WT TRICARE beneficiaries. RVU levels remained consistent in both pre and post eras. This indicates that access to healthcare for non-WTU beneficiaries remained constant despite the enhanced access standards being implemented.

As for the purchased care cost, four of the six installations have similar costs with the two outliers, WRAMC and Fort Lewis, both spending less on purchased care. This can be attributed to the availability of specialty services at both WRAMC and Madigan Army Medical Center. Both facilities are considered Echelon V facilities that provide the most definitive care, where the treatment capabilities include full rehabilitative care, tertiary-level care, and specific services available to wounded warriors. As a result of the robust tertiary services each provides they are able to minimize the number of beneficiaries referred to the civilian healthcare network.

Additionally, there are contributing factors that support the statistical analysis. These factors include the fact that the enhanced access standards had a greater impact on specialty care than any other access to healthcare standard. The specialty care access standards for TRICARE beneficiaries are 28 calendar days. Under the enhanced access standards, WTs access specialty care access standards were enhanced to seven working days. Thus far, only two Army MTFs have ever achieved a ninety percent compliance rate for the enhanced access standards for specialty care and of those two MTFs, only one has exceeded that compliance rate twice since the inception of the enhanced access standards policy (PASBA, 2009). The MTFs inability to comply with the seven working day enhanced standard for specialty care has contributed to the unburdening of the enhanced access standards on the non-WT TRICARE Prime Beneficiaries.

As for routine and the urgent care, the enhanced access standards have not had an impact on the non-WT beneficiaries even though the compliance rates have been consistently above 90% for every installation with wounded warriors (PASBA, 2009). The mandate for WTs to receive urgent care within 24 hours is consistent with all TRICARE beneficiaries and required no additional assets or adjustments in business practices in order to comply with the policy. Additionally, the Army MTFs have created primary care clinics solely responsible for providing wounded warriors routine care. Therefore access for non-WT beneficiaries' to routine and urgent care is not hindered by the enhanced access standards.

### Limitations

The purpose of this study was to determine the impact of the enhanced access standards on non-WT beneficiaries. There were a number of approaches to this study that could have achieved better outcomes. However, the availability of data limited the exploration of these approaches.

First, a directive of the AMAP required that MTFs assign WTs with a special secondary Health Care Delivery Program (HCDP) Plan Coverage Code in the Defense Enrollment Eligibility Reporting System. The HCDP code designated is WII Code 415. The purpose of the WII Code 415 was to identify soldiers enrolled in WTU units and assist in tracking their progress. Further, the code assists clinics in identifying soldiers eligible for the enhanced access standards (MEDCOM, 2008). However, this code was not implemented until after July of 2008. Since the code was not implemented until after July 2008, assessing the WTs utilization of healthcare services prior to that date would require an abundant amount of resources and manpower. Thus, the inability to decipher WT soldiers from other active duty members required the exclusion of all active duty service members from this study.

Second, MTFs' access standards compliance rates are not available. In January of 2009, the TRICARE Operation Center removed the access to care reports as a result of errors in the computation process. Access to care reports prior to January 2009 will not be available until late 2009. The initial data collection for this study included the access to care reports for FY 2006 to FY 2008. The reports were intended to measure the access standards rates for non-WT beneficiaries in correlation with the implementation of the enhanced access standards. The data was not used as it was determined to be inaccurate.

### Conclusion

The policy of the enhanced access standards and the Army Medical Action Plan are nearly two years old. Since their inception, there is enough data to submit that the Army has improved the healthcare experience for the WTs. However, the impact of these policies on the non-WT beneficiary population had not been measured. Thus, the intent of this study was to determine what impact, if any, the enhanced access standards have had on the non-WT beneficiaries' access to healthcare. The statistical analysis has determined that the enhanced have not impacted their access to care in the MHS.

An article released by OTSG Public Affairs office in March 2009, stated that, "Several factors have contributed to what military healthcare providers across the services acknowledge are barriers to efficient and effective Access to Care. Most notable is the high number of war wounded and injured since hostilities began more than six years ago (Vaughn, 2009)." Although the article goes on to identify other factors contributing to the MTFs access issues, this study will assist in countering the misconception that the wounded warriors and the enhanced access standards are impeding the MHS ability to meet access standards for their beneficiaries.

Wounded warriors have earned their care and the enhanced access standards. Despite the WTs small numbers in comparison to the rest of the MHS beneficiary population, Secretary of Defense Robert M. Gates said it best, "After the war itself, we have no higher priority than caring properly for our wounded."

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## Appendix A

Table A1

## Direct Care Data Descriptive Statistics (Pre-AMAP)

Base	Clinic	Mean	Std. Deviation	N
BROOKE AMC-FT. SAM HOUSTON	Mental Health	1.53	0.87	1173
	Neurology	1.32	0.85	185
	Neurosurgery	2.50	3.97	178
	Orthopedics	1.61	2.38	697
	Pain Management	2.06	1.16	196
	Physical Therapy	0.92	0.28	350
DARNALL AMC-FT. HOOD	Mental Health	1.59	0.81	428
	Neurology	1.44	1.15	89
	Neurosurgery	1.22	0.81	33
	Orthopedics	1.84	2.67	340
	Pain Management	1.52	0.83	58
	Physical Therapy	0.80	0.33	162
MADIGAN AMC-FT. LEWIS	Mental Health	1.50	0.86	1484
	Neurology	1.41	0.68	481
	Neurosurgery	1.61	1.68	137
	Orthopedics	1.20	1.57	1186
	Pain Management	1.82	1.39	201
	Physical Therapy	0.80	0.34	266
WALTER REED AMC-WASHINGTON DC	Mental Health	1.54	0.86	929
	Neurology	1.28	0.72	351
	Neurosurgery	2.83	4.15	214
	Orthopedics	1.94	2.76	802
	Pain Management	2.54	1.35	188
	Physical Therapy	0.87	0.33	476
WINN ACH-FT. STEWART	Mental Health	1.91	0.78	428
	Neurology	1.02	0.92	33
	Neurosurgery	0.47	0.47	7
	Orthopedics	2.62	3.57	223
	Pain Management	2.15	.	1
	Physical Therapy	0.75	0.39	122
WOMACK AMC-FT. BRAGG	Mental Health	1.28	0.97	472
	Neurology	1.33	0.62	76
	Neurosurgery	2.06	2.65	68
	Orthopedics	1.36	2.22	316
	Pain Management	2.01	1.33	78
	Physical Therapy	0.72	0.30	147



## Appendix B

Table B1

## Direct Care Data Descriptive Statistics (Post-AMAP)

Base	Clinic	Mean	Std. Deviation	N
BROOKE AMC-FT. SAM HOUSTON	Mental Health	1.60	1.00	726
	Neurology	1.50	0.67	130
	Neurosurgery	1.87	2.19	97
	Orthopedics	1.83	2.76	480
	Pain Management	1.34	0.81	117
DARNALL AMC-FT. HOOD	Physical Therapy	1.00	0.31	255
	Mental Health	1.58	0.90	201
	Neurology	1.73	0.56	46
	Neurosurgery	0.88	0.66	7
	Orthopedics	2.05	3.46	228
MADIGAN AMC-FT. LEWIS	Pain Management	1.62	1.10	25
	Physical Therapy	0.73	0.30	82
	Mental Health	1.56	0.74	774
	Neurology	1.63	0.48	123
	Neurosurgery	1.93	2.83	93
WALTER REED AMC-WASHINGTON DC	Orthopedics	1.95	2.68	472
	Pain Management	2.04	1.20	116
	Physical Therapy	0.89	0.37	170
	Mental Health	1.52	0.77	638
	Neurology	1.13	0.58	231
WINN ACH-FT. STEWART	Neurosurgery	2.27	3.05	121
	Orthopedics	1.81	2.56	513
	Pain Management	2.70	1.23	123
	Physical Therapy	0.91	0.32	293
	Mental Health	1.65	0.77	280
WOMACK AMC-FT. BRAGG	Neurology	1.00	0.83	26
	Neurosurgery	0.81	0.10	2
	Orthopedics	2.66	3.84	167
	Physical Therapy	0.86	0.35	95
	Mental Health	1.58	1.15	311
	Neurology	1.45	1.16	58
	Neurosurgery	1.54	1.40	46
	Orthopedics	1.70	3.24	249
	Pain Management	2.00	1.22	89
	Physical Therapy	0.76	0.37	89

## Appendix C

Table C1

## Purchased Care Descriptive Statistics (Fort Sam Houston, Fort Hood, and Fort Lewis)

Base	Clinic	PrePost Pre/Post	Mean	Std. Deviation	N
BROOKE AMC-FT. SAM HOUSTON	Mental Health	Post	61.70	69.70	173
		Pre	66.72	60.46	252
	Neurology	Post	193.04	57.37	42
		Pre	134.03	82.26	63
	Neurosurgery	Post	409.71	462.71	40
		Pre	542.74	844.08	62
	Orthopedics	Post	179.51	180.30	42
		Pre	332.11	769.57	63
	Pain Management	Post	121.22	62.59	539
		Pre	130.31	75.94	511
	Physical Therapy	Post	14.66	2.12	42
		Pre	17.93	5.61	66
DARNALL AMC-FT. HOOD	Mental Health	Post	45.99	17.82	179
		Pre	59.20	17.56	244
	Neurology	Post	83.49	41.98	42
		Pre	84.97	34.83	63
	Neurosurgery	Post	414.22	593.18	40
		Pre	545.46	951.68	60
	Orthopedics	Post	190.03	134.57	42
		Pre	247.77	177.22	63
	Pain Management	Post	121.95	55.68	275
		Pre	170.09	80.38	335
	Physical Therapy	Post	16.52	1.61	42
		Pre	20.44	4.76	63
MADIGAN AMC-FT. LEWIS	Mental Health	Post	41.50	20.60	198
		Pre	53.99	18.96	252
	Neurology	Post	191.90	70.99	45
		Pre	180.97	104.05	63
	Neurosurgery	Post	288.32	346.91	41
		Pre	690.52	1703.17	53
	Orthopedics	Post	238.32	133.94	45
		Pre	296.79	208.78	63
	Pain Management	Post	113.43	54.50	355
		Pre	132.20	89.43	261
	Physical Therapy	Post	13.45	4.17	45
		Pre	18.20	5.48	67

## Appendix D

Table D1

## Purchased Care Descriptive Statistics (Walter Reed, Fort Stewart and Fort Bragg)

Base	Clinic	Pre/Post	Mean	Std Deviation	N
WALTER REED AMC- WASHINGTON DC	Mental Health	Post	75.12	134.83	178
		Pre	86.97	111.16	239
	Neurology	Post	95.58	71.64	42
		Pre	220.58	774.44	55
	Neurosurgery	Post	292.41	637.17	25
		Pre	212.02	447.74	29
	Orthopedics	Post	182.55	229.91	41
		Pre	181.71	184.41	63
	Pain Management	Post	97.47	70.09	54
		Pre	118.09	94.63	41
	Physical Therapy	Post	15.69	3.43	42
		Pre	17.07	7.37	63
WINN ACH-FT. STEWART	Mental Health	Post	44.85	14.08	182
		Pre	60.07	19.33	252
	Neurology	Post	74.18	25.81	45
		Pre	111.80	51.96	63
	Neurosurgery	Post	316.95	232.27	45
		Pre	458.23	403.37	63
	Orthopedics	Post	136.49	59.09	45
		Pre	159.20	75.83	63
	Pain Management	Post	141.32	88.57	340
		Pre	167.28	112.61	401
	Physical Therapy	Post	12.90	1.51	45
		Pre	16.80	2.63	63
WOMACK AMC-FT. BRAGG	Mental Health	Post	49.96	37.75	186
		Pre	58.45	27.99	231
	Neurology	Post	80.69	36.37	45
		Pre	98.70	84.58	62
	Neurosurgery	Post	248.83	404.26	41
		Pre	320.61	602.88	55
	Orthopedics	Post	119.32	90.77	45
		Pre	180.35	125.13	63
	Pain Management	Post	112.63	81.49	218
		Pre	152.38	102.90	211
	Physical Therapy	Post	14.27	3.47	43
		Pre	17.21	5.21	63

## Appendix E

Table E1

Tukey Post Hoc Test for Bases RVUs

Base	N	Subset				
		2	3	4	1	
WOMACK AMC-FT. BRAGG	1999	1.43				
MADIGAN AMC-FT. LEWIS	5503	1.46	1.46			
BROOKE AMC-FT. SAM HOUSTON	4584		1.56	1.56		
DARNALL AMC-FT. HOOD	1699		1.57	1.57		
WALTER REED AMC-WASHINGTON DC	4879			1.63		
WINN ACH-FT. STEWART	1384					1.84

c Alpha = .05.

Table E2

Tukey Post Hoc Test for Specialty Clinic RVUs

Clinic	N	Subset				
		2	3	4	5	1
Physical Therapy	2507	0.86				
Neurology	1829		1.36			
Mental Health	7844			1.55		
Orthopedics	5673				1.73	
Pain Management	1192					2.05
Neurosurgery	1003					2.16

c Alpha = .05.